Greater Cincinnati Water Works: Lead Service Line Replacement Program



# Presentation Agenda

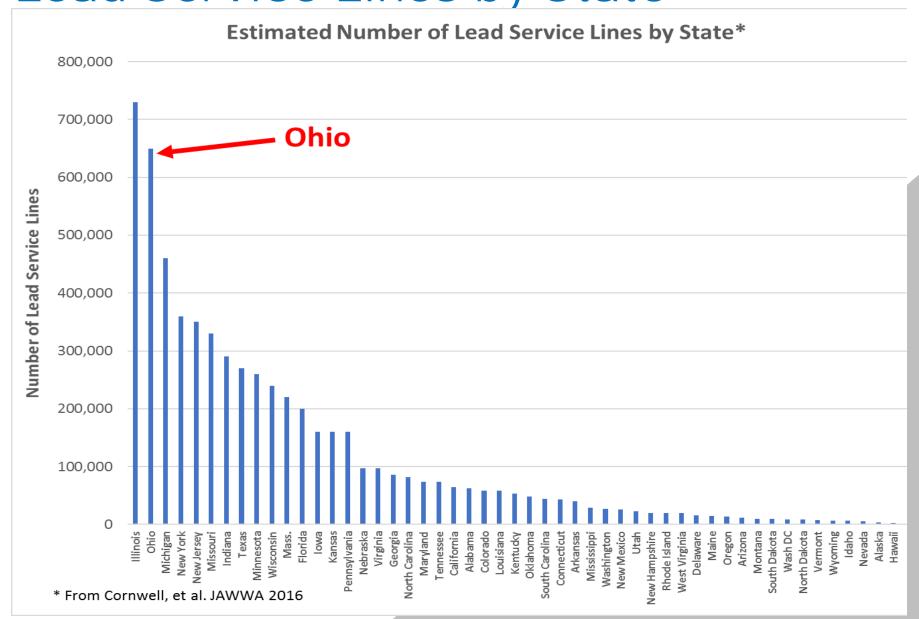
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COLLECTED BY:

- Harmful effects of lead
- Problems of lead in drinking water
- GCWW lead service lines (LSL) issues
- GCWW Lead Service Line Replacement Program (LSLRP)
- Challenges faced with the LSLRP
- LSL Replacement example showing cost/benefits
- Questions

# The Extent of the Problem Lead Service Lines by State



# Cincinnati Health Department (CHD)

### **Childhood Lead Poisoning Prevention Program (CLPPP)**

- CHD CLPPP Formed in 1974
- 1978 Lead-based Paint is banned from residential use
- Public Health Lead Investigations for children with Elevated Blood Lead Levels





### **Public Health Lead Investigation**

- Directed by state law to determine the source of lead
- Primary focus is lead-contaminated dust from:
  - Deteriorated Lead-Based Paint
  - Soil contaminated from LBP and/or use of leaded gasoline





### **Childhood Lead Poisoning**

### Lead Poisoning, #1 Environmental Disease in Children

Lead is a powerful neurotoxin

### 80% of childhood lead poisoning is from their home

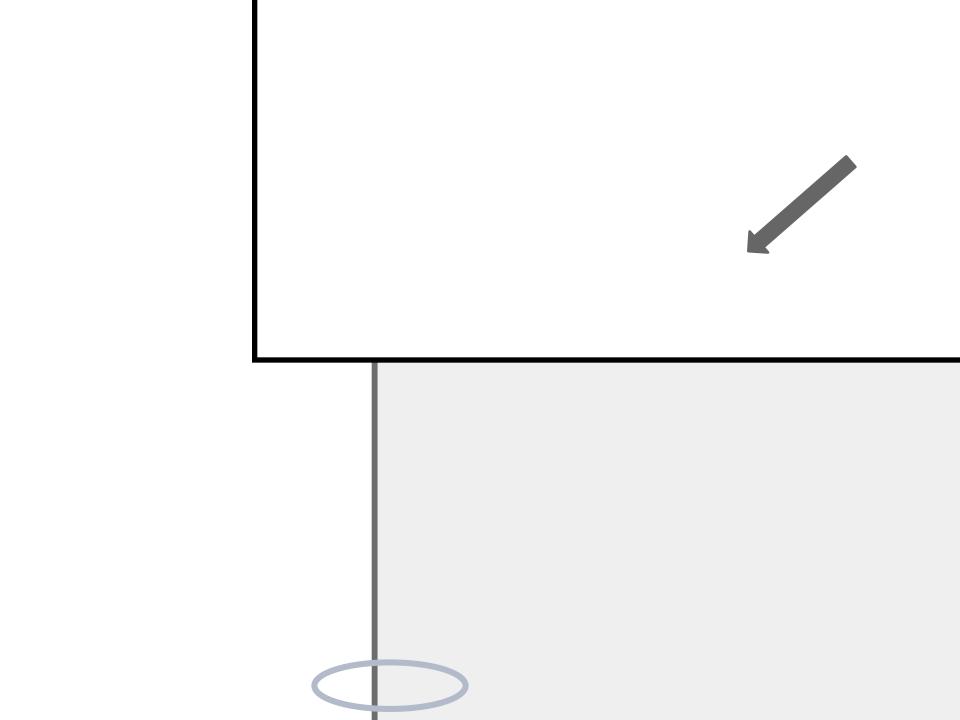
Lead Based Paint was in residential use until 1978

### Lead Poisoning is entirely preventable

- Outreach and Education
- Proper control of Lead Hazards







### **Childhood Lead Poisoning**

### Deteriorated Lead Based Paint (LBP)

- A result of "deferred maintenance"
- •Improper repair makes the problem worse

### **Lead Contaminated Dust**

- Children are exposed from hand-mouth behavior
- Created from LBP and contaminated soil

### Lead Contaminated Soil

- •From LBP and fumes from leaded gasoline
- Tracked into the home





### Partnership with Greater Cincinnati Water Works (GCWW)

#### Lead Contaminated Water

- Lead Service Lines
- Lead solder/Lead-containing fixtures

### Water Exposure

- Higher levels in hot or stagnant water
- •Formula-fed infants at greater risk

### **Sampling**

- Nurses draw a water sample at PHLI
- Advice on
  - Consuming from cold tap
  - Flushing before consumption





### Lead in the Body

### How it enters

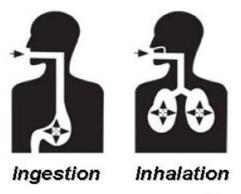
- Through the digestive tract
- Through the lungs

### Within the body

- Mistaken for Iron and/or Calcium
- Absorbed in the blood and bones/teeth

### Rate of Absorption

- •Children up to 50%
- •Adults 5-10%





### There is No Safe Level of Lead in the Body

#### Effects on the child

- Causes lowered IQ
- Causes behavioral issues

### Effects in Education

- Causes attention deficits/speech delays/learning problems
- Causes a higher drop-out percentage

### Effects to Society

- Lower lifetime earning potential
- Linked to adult criminal behavior





### There is No Safe Level of Lead in the Body

#### Effects on adults

- •Headache/Nausea
- •Irritability/Fatigue
- Impaired Concentration/Linked to Alzheimer's
- Reproductive issues
- Anemia
- Osteoporosis
- High Blood Pressure/Heart disease





Is it Lead?







Is it Lead?







### Other Potential sources of Lead

- Imported powders
- Containers
- Food/Candy
- Remodeling

- Hobbies
- Occupation
- Play Jewelry



















### Other Potential sources of Lead: Hobbies/Occupation

- Gardening
- Ceramic GlazesFishing
- Firearms
- Preparation for Painting

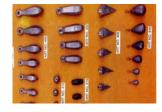
- Demolition
- Vehicles















### Other Potential sources of Lead: Containers

- Cans
- China
- Brass
- Pottery

- Pewter
- Cut-glass
- Ceramics

















#### What Can You Do?

- Wash Hands
- Wet Clean
- Remove Shoes

- Cover Soil
- Vacuum
- Healthy Diet



















#### What Can You Do?

- Have your child tested
- Consider having yourself tested
- Have your water tested
- Learn about Lead Safety











### **Required for Pre-1978 Homes**

- When buying or renting
- When renovating/repairing or any window replacement
- EPA Certified Firm









### Partnership with Greater Cincinnati Water Works (GCWW)

#### Grant Funds for Low-Income Families

- HUD City partnered with Hamilton County to receive
  - \$3 million for Lead Paint Hazard Control
  - \$400,000 in supplemental Healthy Homes funds
    - May be used to remove/replace private lead service line
- Medicaid Statewide SCHIP funds
  - Lead Paint Hazard Control
  - No \$\$ for Lead Service Lines



# What does GCWW do to control lead in drinking water?

- Lead & Copper Rule (LCR)
  - Must provide optimal corrosion control treatment (to contain lead)
  - Test "worst case" homes to ensure it is working
- GCWW has had corrosion control treatment for years
  - Goal to immobilize lead through coating deposition on pipe walls
  - Corrosion control treatment is working
  - Less than 15 parts per billion in more than 90 percent of the samples (97% of 3,907 tests analyzed)
- However, only so much can be controlled by water utility

# Why is lead a problem in drinking water systems?

- The lead risk in water:
  - Water services lines. Estimated 6.1 Million in U.S.\*
  - Fixtures and fittings containing lead
- The solution for drinking water:
  - Keep lead contained (via a pipe coating)

OR

- Remove lead bearing materials
- However:
  - Containment doesn't always work, or gets disrupted
    - Flint, MI no corrosion control treatment
    - Disturbance of a water service (such as water main replacement project or home plumbing work) can cause spikes in lead
    - Stagnant water or low usage fixtures can result in elevated lead levels
  - Removal is the only way to permanently mitigate risk



<sup>\*</sup> From Cornwell, et al. JAWWA 2016

# Lead Service Line Replacement Problem - It's Expensive



- GCWW stopped using lead service lines in 1927
  - GCWW records indicate ~44,000 lead service line
    - ~39,000 lead service lines within Cincinnati limits
    - ~5,000 lead service lines within surrounding municipalities we serve
    - ~22 within Golf Manor (as per GCWW records)
- Replacement costs:
  - Current estimate around \$5,500 per branch, private side replacement only
  - That's at least a \$242,000,000 bill

# GCWW Enhanced Lead Program Brief History

- Flint, MI and national attention towards lead service lines
- October 2016 Cincinnati City Council passes Ordinance No. 326-2016
  - Replace all known public and private LSL within fifteen years
  - Property assessment as financing option
  - Establish a customer assistance program, <u>Help</u>
     Eliminate <u>Lead Pipes</u> (HELP), to help-low income property owners with replacement costs
- Created a two tier approach

# Tier 1 Lead Program Solutions: Communication and Education

- lead.mygcww.org
- 513-651-LEAD Hotline
- Social Media
- Letters sent to customers who have lead service branches
- Free Lead Testing
- School Lead Testing
- Partnership with local Health Departments
- Water Filter Pitchers
- LSL Lookup Map

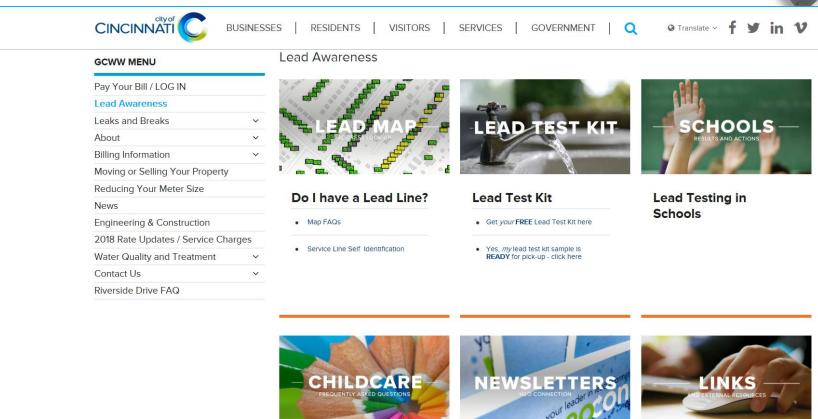


# Lead Awareness Website:

# Lead.myGCWW.org



Links and Additional

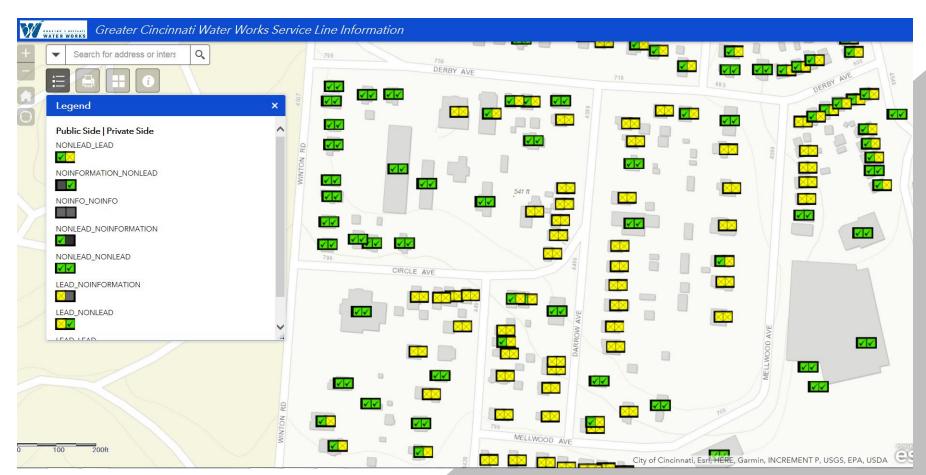


Lead Newsletter

Child Care Facilities

# LSL Lookup Map





# Tier 2 Lead Program Solutions: Lead Service Line Replacement Program (LSLRP)

- June 2017 Cincinnati City Council passed several ordinances to establish our LSLRP. LSLs are no longer permissible
  - Ordinance No. 185-2017 modified provisions of Cincinnati Municipal Code (CMC) Chapter 401 giving GCWW the authority to operationalize the LSLRP and replace LSLs in our service area
  - Ordinance No. 186-2017 established the funding needed to perform the LSLRP
  - Ordinance No. 187-2017 established the mechanisms necessary to start the customer assistance program.

Lead Service Line Replacement Program When are LSLs Replaced?

- As part of GCWW water main replacement project
  - Capital Improvement Projects
  - Street Improvement Projects
- "One-Off's" (Pre-qualified Plumbers/Contractors List)
  - Customer contacts GCWW and wants their LSL replaced
  - Customer has leaking or damaged LSL needing replacement
  - Customer has missing meter and service line is a LSL
  - As part of development project requiring new water main with existing LSL
  - Home demo/renovations requiring LSL work

# Lead Service Line Replacement Program Replacement Process

- Initial water main replacement letter (water main replacement projects only)
- 45-day letter notification Property owner contract
  - Option 1; self-perform replacement
  - Option 2; join LSLRP program
- Replacement of LSL
- Post construction information/water filter pitcher
- Final bill to property owner with payment options
  - Pay in full, partial pay or assessment option (Cincinnati Only)
  - Pay in full, if no assessment option available

Lead Service Line Replacement Program Program Benefits

- GCWW coordinates all the work
- Cost Sharing Program, up to 40% (\$1,500 Max.) of private side replacement cost will be provided by utility (all property owners)
- Property Assessment (0% interest) to pay balance over 5 or10 year period (Cincinnati only)
- Customer Assistance Program (HELP) for low-income customers to obtain additional money towards the balance. Currently 30% reduction of final bill after GCWW cost participation

# Lead Service Line Replacement Program Challenges - Affordability

- Across Hamilton County, over one-third of households, more than 110,000, are burdened by the cost of their housing and spend more than 30% of their income on housing costs.<sup>1</sup>
- Water/sewer bill already financially challenging for many
- Payback options limited for jurisdictions outside of Cincinnati
  - Traditional or home equity loans
  - Hamilton Co. Home Improvement Program
- No grant assistance available for Ohio
  - State Revolving Fund (SRF) loans are available

<sup>&</sup>lt;sup>1</sup> Housing Affordability in Hamilton County; An analysis of households, housing affordability, and housing subsidy in Hamilton County and Cincinnati, Ohio, February 2017; Community Building Institute (CBI) at Xavier University and Local Initiatives Support Corporation (LISC) of Greater Cincinnati & Northern Kentucky

# Lead Service Line Replacement Program H.E.L.P. – Help Eliminate Lead Pipes



- Customer assistance program for qualified property owners to assist in cost of LSL replacements
- Any property owner may apply
- Donations fund the program. Partnering with a non-profit (501c3)
- One-time cost benefit applied as a credit on the LSL replacement final bill
- Property owner income must be equal to or less than the Low-Income (80%) Limits for Hamilton County as defined by HUD Income Limits Summary.
- Qualifying customers receive a 30% credit applied to their final LSL replacement bill after any GCWW cost participation benefits have been applied.

Lead Service Line Replacement Program Replacement Example

- \$5,500 replacement cost
- Minus \$1500 cost share by GCWW
- \$4,000 remaining property owner balance
- Property owner elects to pay back over 10 years
- divided by 10 payments (2/yr)
- = \$200 added to semiannual tax bill
- = \$33.33 per month
- If qualified for HELP Program = \$23.33 per month
- Monthly payments is approximately 50% less than original amount





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